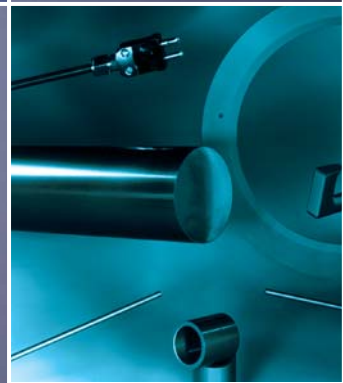
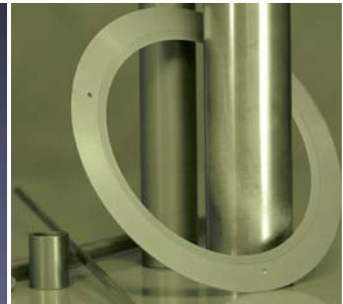


**COORSTEK**  
*Amazing Solutions.®*



**PURE SiC™ CVD SILICON CARBIDE**  
**FOR ADVANCED SEMICONDUCTOR MANUFACTURING**

# PURE SiC™ CVD SILICON CARBIDE

## Specifically Developed for Silicon Wafer Processing

High-purity, full-density PURE SiC CVD silicon carbide was specifically developed to meet the tough demands of silicon wafer processing.

- **Ultra-pure material** – With a purity greater than 99.9995% and no porosity, PURE SiC CVD silicon carbide helps maintain the cleanliness of semiconductor manufacturing processes
- **Low thermal mass** – a critical design parameter, the high-strength and stiffness of PURE SiC CVD silicon carbide allow the use of thin, lightweight components
- **Thermal shock resistance** – RTP processes benefit from the high thermal shock resistance of PURE SiC CVD silicon carbide, helping to improve ramp rates and component life
- **Withstands cleaning processes** – Highly resistant to concentrated HF/HNO<sub>3</sub> wet cleans and high temperature in-situ etching with gaseous HCl
- **High and low-resistivity grades** – for applications requiring specific electrical properties
- **High and low transmissivity grades** – for applications where optical or infrared transmissivity is critical
- **Near-net shape capabilities** – assist in the fabrication of intricate geometries

Specify PURE SiC CVD silicon carbide for RTP, epi, etch, implant, and other critical processes.

## Ultra-Clean Manufacturing Processes



*Individual bays for each CVD SiC reactor fitted with dedicated HEPA-filtration system.*

With purity greater than 99.9995%, PURE SiC CVD silicon carbide has the cleanliness for advanced semiconductor manufacturing and other ultra-clean processes.

- Critical trace elements are maintained at levels well below one ppm in bulk
- Full-density CVD SiC reduces the particles or cleaning solutions that can be trapped in porous materials
- Ultra-high-purity feed gases employed in chemical vapor deposition (CVD) process

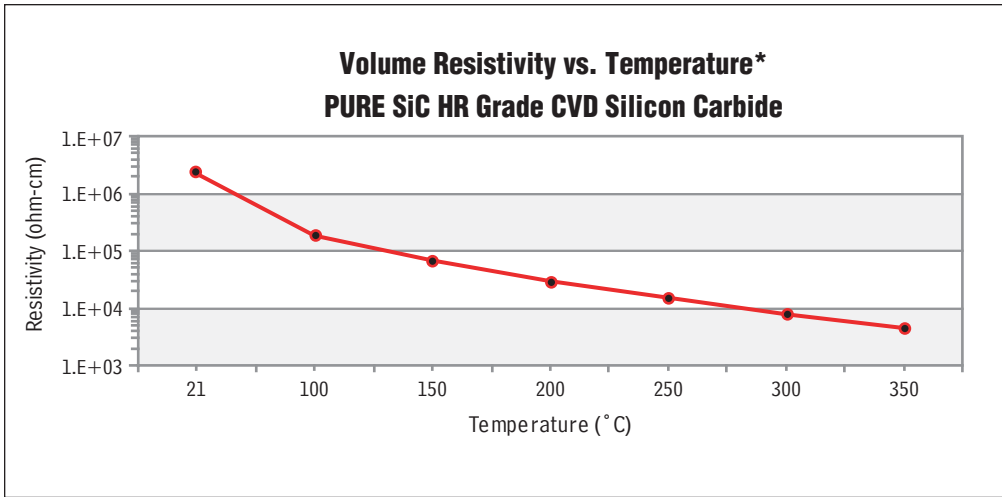
Developed  
specifically for  
silicon wafer  
processing

For expert  
engineering and  
design assistance  
with your next  
project, call us at  
800.455.4050

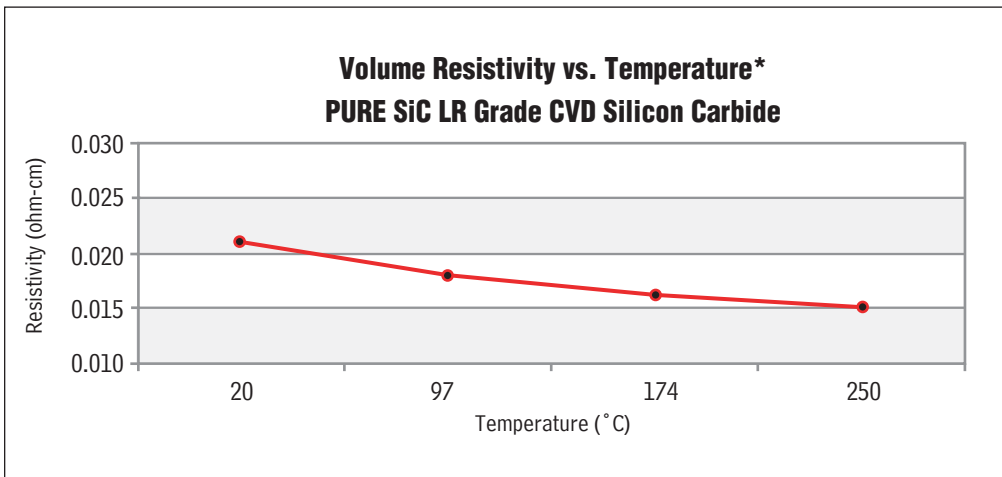
# FOR SEMICONDUCTOR MANUFACTURING

## Controlled Electrical Resistivity Applications

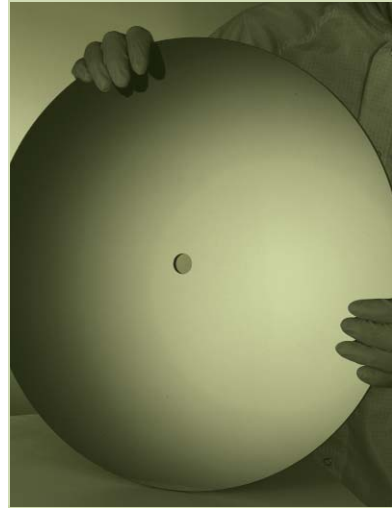
PURE SiC is offered in HR and LR grades for applications where high or low electrical resistivity is required. Controlled resistivity, combined with high purity and corrosion resistance, make PURE SiC CVD silicon carbide an ideal material for use in plasma etch, ion implant, and static-dissipative processes.



High-resistivity (HR) grade PURE SiC HR grade has a resistivity greater than  $10^6$  ohm-cm at room temperature



Low-resistivity (LR) grade PURE SiC CVD Silicon Carbide has a resistivity of less than 0.1 ohm-cm. Custom grades are available for other resistivity requirements – call our materials experts at 303-277-4746 or toll free in North America at 800-455-4050 for more information.

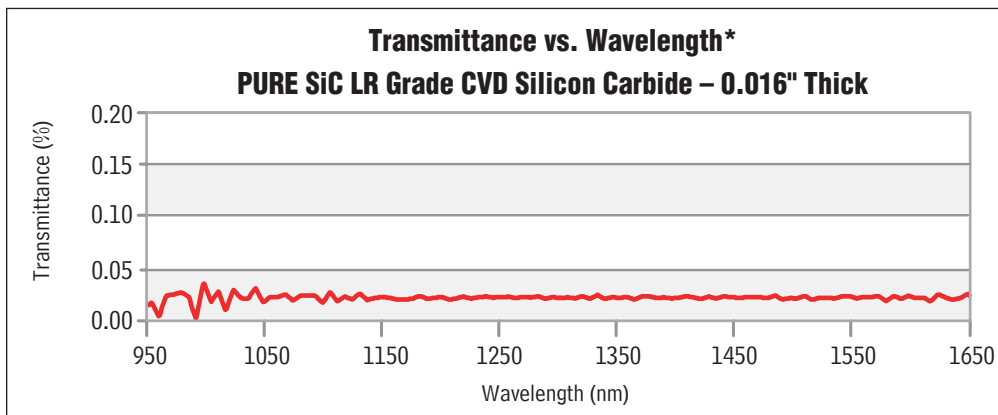
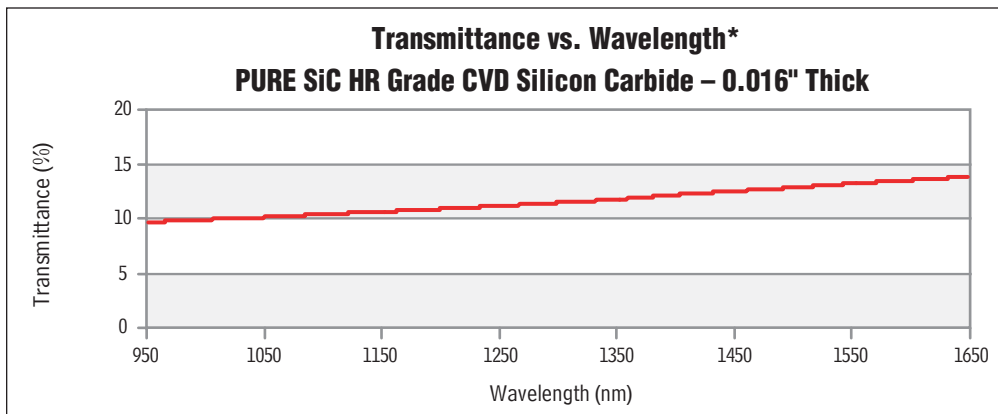


High-precision,  
large-scale CVD  
silicon carbide  
capabilities

For expert  
design-for-  
manufacturability  
assistance with  
your next project,  
call us at  
800.455.4050

### Controlled Optical Transmissivity Applications

PURE SiC CVD silicon carbide is offered in the standard translucent HR grade and in low-transmissivity LR grade for applications requiring an opaque silicon carbide. Our in-house optical testing capabilities help to ensure that PURE SiC CVD silicon carbide meets your optical requirements.



Specify PURE SiC LR grade CVD silicon carbide for applications where motion sensors or optical temperature sensors require a low-transmissivity material. Our LR grade is also available in thin-wall protective sheaths – for quick response thermocouples and optical temperature sensors.



### Materials and Manufacturing Experts

CoorsTek is uniquely capable of providing advanced solutions in CVD silicon carbide and other technical ceramic, metal, and plastic materials using state-of-the-art manufacturing technologies. Our in-house materials testing lab is one of the premier testing laboratories in the industry. Let the CoorsTek team help you select the best materials and design for manufacturability. For expert engineering and design assistance, call us at 303-277-4746 or toll free in North America at 800-455-4050.

\* Note: The charts contained in this document are intended to illustrate typical properties. Engineering data is representative. Property values vary somewhat with method of manufacture, size, and shape of part. This data is not to be construed as absolute and does not constitute a warranty for which we assume legal responsibility.

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